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Editorial

Opening data and research objects in viticulture: The Viticulture Data Journal (VDJ)

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Abstract

The Viticulture Data Journal (VDJ) is launched with the aim of offering a publication venue for non-conventional but valuable outputs of the research cycle: data, models, methods, software, data analytics pipelines and visualisation methods in viticultural research. VDJ is published on the ARPHA journal platform, which supports the full life cycle of a manuscript, from writing through submission, peer review, publication and dissemination within a single online collaborative platform. During the AGINFRA+ project, which has supported the journal launch, ARPHA has been extended to be used from the AGINFRA+ Virtual Research Environment (VRE).

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Keywords

Viticulture, Open science, Open access, Open data, Data publishing, Software description, Knowledge exchange, Research cycle

Rationale

The transformation from Open Access to published content to Open Data and Open Science is an unprecedented and most rapidly occurring sociological and technological change in research and scholarly communication that has happened in less than two decades. The Open Access movement started to take off in the 1990s as a result of the rapidly increasing use of Internet for distribition of knowledge and, as the most important landmark in this major change, served the Budapest Open Access Initiative*1 published in February 2002 (Suber 2012). Soon afterwards, in the late 2000s (see, for example, Green 2009, Penev et al. 2009), the next stage of Open Data came on to the stage in the form of guidelines, pilots, policy documents and data journals. Less than half a decade later, the movement was crowned by the Open Science paradigm that proclaimed opening of the entire research cycle, including also related areas, such as open education, open science evaluation, open peer review and so on (Pontika et al. 2015). This quickly found its place in the policy decisions at the highest governing levels, for example, the European Commission (European Commission 2016) and also resulted in creation of many initiatives, tools and platforms (Nielsen 2011).

The act of scientific publishing is actually the moment when the long effort of researchers comes to light and can be assessed and used by other researchers and the wider public. Therefore, it is little wonder that the main arena of transition from Open Access to Open Science was actually the field of academic publishing (Penev 2017). Amongst the most important Open Science elements in scholarly publishing are the publication of the entire research cycle in combination with open and public peer review that enforced, at the end, the appearance of "open science journals", such as, for example, Faculty1000*2 and the Research Ideas and Outcomes*3 (RIO Journal) (Mietchen et al. 2015).

The **Viticulture Data Journal*4 (VDJ)** was created to respond to the major technological and sociological changes that have influenced the entire process of scholarly communication towards Open Science. VDJ is an innovative, open access, peer-reviewed journal which facilitates the publication of various research outcomes along the research cycle in the area of viticulture: data, models, methods, software, data analytics pipelines and visualisation methods in viticultural research.

Viticultural research covers a wide range of topics, from genetic research, food safety of viticultural products to climate change adaptation of grapevine varieties through grape-specific research. The journal will consider manuscripts for publication related (but not limited) to the following topics:

- Phenotyping and genotyping

- Vine growth and development
- Vine ecophysiology
- Berry yield and composition
- Genetic resources and breeding
- Vine adaptation to climate change, abiotic and biotic stress
- Vine propagation
- Rootstock and clonal evaluation
- Effects of field practices (pruning, fertilisation etc.) on vine growth and quality
- Sustainable viticulture and environmental impact
- Ampelography
- Plant pathology, diseases and pests of grapevine
- Microbiology and microbiological risk assessment
- Food safety related to table grapes, raisins, wine etc.

VDJ is published on the ARPHA-XML*5 journal platform, which supports the full life cycle of a manuscript, from writing through submission, peer review, publication and dissemination within a single online collaborative platform. A key feature of VDJ is that the manuscripts should be written in the ARPHA Writing Tool*6 (AWT), where the authors can use a set of pre-defined, but flexible manuscript templates covering those research outcomes considered for publication in the journal, for example:

- Data Paper
- Methods
- Emerging Techniques
- Applied Study
- Software Description
- R Package
- Commentary

Within the ARPHA Writing Tool, authors can also invite external contributors, such as mentors, reviewers, linguistic and copy editors, or just colleagues, who may correct and comment on the manuscript submission to the journal. AWT also allows for search and import of literature and data references, cross-referencing of in-text citations, importing of

tables, uploading of images and multimedia, building plates of images and several more from its rich editing functionality set. Before submission, the authors should pass an automated technical validation step which will reveal inconsistencies in the manuscript, for example, missing in-text citations or compulsory article sections, incorrect URL addresses and so on. Further, after submission to VDJ, it will pass a peer-review process within a collaborative communication environment between authors, reviewers and editors. For the convenience of the editors, the manuscript reviews are automatically consolidated into a single online file that makes the editorial process easy and straightforward. Once an article is published, it can also be the subject of a post-publication peer review and/or comments via both the inbuilt ARPHA commenting tool and an integrated hypothes.is*7 plugin. One of the most advanced features of ARPHA is the "living article" function, which allows authors to convert published papers back into editing mode at the click of a button; the manuscript can then be revised and re-published in a new version under a different DOI, linked to previous versions via CrossMark*8.

During the AGINFRA+*9 project, ARPHA has been extended to be used from the AGINFRA+ Virtual Research Environment (VRE)*10, which would allow the authors to use the VRE as an additional gate to the AWT and the journal, as well as to benefit from the integration of AWT with several other services offered by the AGINFRA+ platform (Ballis et al. 2018). The AGINFRA+ platform has been designed as a Gateway*11 providing online access through a one-stop endpoint to services (for list and description of services see: Ballis et al. 2018, Filter et al. 2019), aiming at the integration of the traditional narrative of research articles with their underlying data, software code and workflows.

We sincerely hope that the viticultural research community will embrace the opportunity to publish their unconventional, though valuable, research outcomes in the Viticulture Data Journal!

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Endnotes

*1 https://www.budapestopenaccessinitiative.org
*2 https://f1000.com/
*3 https://riojournal.com
*4 https://vdj.pensoft.net
*5 https://arphahub.com
*6 https://arpha.pensoft.net
*7 https://hypothes.is
*8 Https://crossref.org/services/crossmark/
*9 http://plus.aginfra.eu/
*10 https://aginfra.d4science.org/explore
*11 aginfra.d4science.org